

## ABSTRACT

A system and method for enhancing the integrity of an avionics system which uses a pair of dissimilar general purpose microprocessors, each running a virtual machine, compiled for its respective processor, from a common original source file; the virtual machines running on a subset of the instructions for each microprocessor and thereby avoiding conditions known or likely to result in defects; the virtual machines running a single or identical avionics program and then voting the results of this simultaneous redundant execution to arrive at an enhanced assurance level; providing written claims to the FAA that an enhanced assurance level is achieved.